

Claims

What is claimed is:

1. A method for visualizing the lens and/or anterior lens capsule of a subject, comprising introducing a means for emitting light into the lens of the subject's eye, wherein light emitted by the light emitting means illuminates the lens and/or anterior lens capsule of the eye by light scattering and reflection.
2. The method of claim 1, further comprising visualizing the illuminated lens and/or anterior lens capsule of the eye.
3. The method of claim 1, wherein the emitted light has an angle of dispersion between about 0 degrees and about 20 degrees, thereby achieving a higher local scattering of the emitted light in the lens.
4. The method of claim 1, wherein the light emitted by the light emitting mean is directed through the eye at an angle that is not coaxial to the optical axis of the eye.
5. The method of claim 1, wherein the light emitted by the light emitting means is laser light.
6. The method of claim 1, wherein said introducing comprises inserting the light emitting means into the anterior chamber of the eye.
7. The method of claim 1, wherein the light emitting means comprises a light transporter, wherein the light transporter comprises a proximal end and a distal end, and wherein the distal end is inserted into the anterior chamber of the eye.

8. The method of claim 7, wherein the distal end of the light transporter has a tip from which light is emitted, wherein the distal end of the light transporter inserted into the anterior chamber, and wherein the tip of the distal end of the transporter is within the range of about 0 millimeters to about 15 millimeters from the lens of the eye.

9. The method of claim 1, wherein the light emitting means comprises a light transporter, wherein the light transporter comprises a proximal end and a distal end, and wherein the distal end is inserted through the anterior chamber of the eye and into the lens of the eye.

10. The method of claim 9, wherein the light transporter is an optical fiber.

11. The method of claim 1, wherein the light emitting means comprises a light transporter, wherein the light transporter comprises a proximal end and a distal end, wherein the distal end is inserted through the anterior chamber of the eye and into the lens of the eye prior to, during, or after a surgical procedure on the eye.

12. A method for visualization of the lens and/or the anterior lens capsule of the eye during a capsulorhexis procedure, comprising introducing a viscoelastic substance into the anterior chamber of the eye, inserting a means for emitting light into the lens of the subject's eye, wherein light emitted by the light emitting means illuminates the lens and/or anterior lens capsule of the eye by light scattering and reflection, and creating a capsulorhexis within the eye.

13. The method of claim 12, wherein the emitted light is directed at the retina, and wherein the emitted light is reflected off the retina and illuminates the lens and/or anterior lens capsule of the eye.

14. The method of claim 12, wherein the emitted light has an angle of dispersion, between about 0 degrees and about 20 degrees, thereby achieving a higher local scattering of the emitted light in the lens.

15. The method of claim 12, further comprising replacing at least a portion of the lens with an intraocular lens.

16. The method of claim 12, wherein viscoelastic substances of differing viscosities are introduced into the eye, wherein a less viscous substance is introduced over the lens capsule, and wherein a more viscous substance is introduced at the pupil margin of the eye so as to enhance visibility of the edge of the capsulorhexis.

17. The method according to claim 12, wherein viscoelastic substances of differing viscosities are introduced into the eye, wherein a more viscous substance is introduced over the lens capsule and at the pupil margin of the eye so as to enhance visibility of the edge of the capsulorhexis.

18. An apparatus for the visualization of the lens and/or anterior lens capsule of the eye, comprising a light transporter and a light source, wherein said light transporter is operably connected to said light source, and wherein said light transporter emits light.

19. The apparatus of claim 18, wherein said light transporter has a proximal end connected to said light source, and wherein said light transporter has a distal end, wherein light is emitted from said distal end of said light transporter.